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MEDICAL UNIVERSITY  
OF  
SOUTH CAROLINA

*Annual Report*  
1982-1983



MEDICAL UNIVERSITY  
OF  
SOUTH CAROLINA

*Annual Report*  
*1982-1983*



The Medical University of South Carolina does not discriminate on the basis of race, color, creed, national origin, ancestry, sex, age, veteran status, or handicap, in the recruitment and admission of students, employment of faculty and staff, and the operation of other educational activities and programs, as specified by federal and state laws and regulations.

MEDICAL UNIVERSITY

OF

SOUTH CAROLINA

Annual Report

1982-1983



Distinguished Ladies and Gentlemen:

I was deeply honored to assume the presidency of the Medical University of South Carolina on November 5, 1982. Long an admirer of its people and tradition of service, I have enjoyed in full measure the friendship and cooperation of the Board of Trustees, faculty, staff and students these first eight months in office.

In a period of financial stringencies my first action as president was to announce the formation of a Private Sector Task Force to review Medical University operations in the light of the most current business practices. The team of corporate executives organized by the Task Force Chairman, John G. Wellman, devoted a total of approximately 330 days to the study at no cost to the State. The report issuing from their work serves as a model for all public sector institutions and is rapidly being implemented. We foresee extensive savings from the many efficiencies we will achieve.

As South Carolina's tertiary level patient care referral center, the Medical University is embarked upon an extensive remodeling program necessary to accommodate the exciting technological advances in medicine. Also, construction has begun on the East Wing-Children's Hospital Addition; planning is under way for a psychiatric hospital, and private funds are being solicited to make possible the transformation of the Medical University Hospital's tenth floor into the Palmetto Pavilion, a distinctive facility for patient care.

We are meeting our established goals and objectives and look forward to many future successes in the areas of education, clinical services, and health research. The MUSC family shall continue to strive for excellence in meeting the needs of the citizens of our State and enthusiastically accepts the challenges of the coming year.

I take this opportunity to express my thanks to the Trustees, and many other South Carolinians who have made my return from Washington a true pleasure.

JAMES B. EDWARDS, D.M.D.  
*President*



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## MEDICAL UNIVERSITY OF SOUTH CAROLINA

The Medical University is the State's only free-standing academic health center providing a comprehensive range of programs in the biomedical sciences.

Founded in 1824 as the oldest medical school in the South, its College of Medicine pioneered in the clinical teaching of students in a hospital specifically provided for this purpose and members of its faculty wrote some of the first American medical textbooks.

The University was a proprietary institution through its early history, but with the Flexner Report and the much heavier financial demands it placed upon the school, the State was prevailed upon to assume ownership in 1913. University status was achieved in 1969.

The institution includes six colleges, the division of continuing education and a major teaching hospital. In addition to the College of Medicine, there are the College of Pharmacy, in continuous service since 1894; College of Graduate Studies, which issued its first graduate degree in 1951; College of Nursing, celebrating its centennial in 1983, which instituted its four-year baccalaureate program in 1965; College of Allied Health Sciences, established in 1966, which offers 26 training options; and College of Dental Medicine, which graduated its first class in 1971. A Dean of Continuing Education was appointed in 1979.

Today the scope and geographical extent of its services are impressive. Through consortial and regional affiliations, cooperation takes place with other colleges and agencies, and more than 50 hospitals around the state are able to participate fully or in part in numerous programs.

The University's honor roll of distinguished contributors to medicine includes Sims (founder of American gynecology), Thomas (surgical innovations), Strobel (epidemiology), Geddings (pathological anatomy), Wagner (pathological and surgical anatomy), Parker (neurosurgery), Porcher (germ theory), Chazal (epidemiology), Banov (community health), Lynch (asbestosis), Smithy (heart surgery), and Waring (medical history).

## COLLEGE OF MEDICINE

The academic year was not one of statistical significance; the budget and the number of students and faculty remained level. There were, however, a number of reportable activities which challenged the College and drew heavily upon the faculty.

Undoubtedly, the more significant long term events were the upswing in the State's economic circumstances and the arrival of a new President. The turn of economic events resulted in unexpected faculty salary increases and a new enthusiasm for 1983-84 budget development activities.



The President's arrival was attended by a period of orientation and two initiatives designed to improve institutional effectiveness. The first was a zero base budget exercise involving all administrative units of the College (and University), and the second was a "management study" conducted by a task force of knowledgeable men from the private business sector.

The MUSC Extension Program was initiated 12 years ago for the primary purpose of providing clinical exercise for our medical students in a network of sites beyond the University campus. With the establishment of a second medical school (USC), it became apparent that the system should be shared. Pursuant to this, the Charleston office and the structure of the system's membership were reorganized. The Extension Program is now called the S. C. Consortium of Community Teaching Hospitals and the College of Medicine now functions as the steward of the state resources which drive the Consortium.

A Blue Ribbon Committee was drawn by the Commission on Higher Education to study and make recommendations regarding medical education in South Carolina. The Committee drew heavily upon the resources of the College of Medicine (and the USC School of Medicine) because of the political-economic implications of the study. The Committee recommended a merger of the two medical schools which was rejected by the Commission. The subsequent search for an alternative resulted in a revitalization of an existing Committee whose charge is to insure the cooperation of the two medical schools.

An Ad Hoc site visit team from the Liaison Committee on Medical Education visited the College in May for the purpose of reviewing the College's academic program. The site visit group was complimentary and recommended (to the Liaison Committee) that accreditation be continued for a period of four years.

The faculty of the College of Medicine held a retreat at Camp St. Christophers in February. The agenda included discussion of a number of areas of concern including plans for clinical facilities, supervision of students and residents, indigent care, ambulatory care and the medical referral system.

The College (and University) continued to struggle with the numerous financial and service issues which attend the relationship with Charleston Memorial Hospital. The fundamental problem of insufficient funding for the care of Charleston County's indigent population remains unsolved despite continuing rigorous study and negotiation.

Medical care problems at the Charleston Veteran's Administration Medical Center gave rise to a thorough study of the V.A. Hospital affiliation and its decision making structure. The study, in addition to contributing to mutual understanding of needs, strengthened the decision making process and the supervision given students and residents.

College fiscal affairs experienced a modest growth overall of approximately 3.56 million dollars over the previous year. It is notable, however, that there actually was a small drop in State support with the increase coming from (primarily) private practice earnings. The growth also occurred despite state mandated budget cuts of .31 and 4.6 percent.

In compliance with the State's "no growth" position and the budget cuts, the College experienced a net full-time faculty loss of 15. Part-time faculty increased by 75. The largest part of the increase in part-time faculty was primarily in the areas of Medicine (14), Family Medicine (14), Orthopedics (17), and Consortium.

The College of Medicine has admitted 165 students each year since 1971. The number of female acceptances rose to 46 from the previous year's 35. Of the 350 applicants from South Carolina, 158 were accepted. There were six black admissions in 1982 and five in 1981. A total of 232 students completed programs of graduate medical education (residencies) at MUSC and the Statewide Consortium of Teaching Hospitals.

The Curriculum Committee addressed several issues during the academic year. A formal process establishing regular course review has been put in place and is functioning well. The Committee also instituted a Senior Seminar Series covering many topics not previously addressed in the curriculum. The Genetics course has been revised and expanded, and a course in Clinical Nutrition has been approved to start in 1983-84. The beginning of clinical rotations has been pushed forward one month and an additional elective period has been added.

The College is saddened to report the following deaths during the year: Susanne H. Deas, Assistant Professor of Psychiatry and Behavioral Sciences, July 15, 1982; Dr. Thomas Hilton House, IV, Assistant Professor of Family Medicine (Columbia), December 20, 1982; Dr. James Madison Brown, Clinical Assistant Professor of Psychiatry and Behavioral Sciences, January 12, 1983; Dr. Thomas W. Holbrook, Associate Professor of Laboratory Medicine, January 13, 1983; and Dr. Albert Kreutner, Jr., Clinical Associate Professor of Pathology, February 7, 1983.

As has been customary, a complete annual report from one of the College's administrative units is included herein. Featured this year is the impressive report of the Consortium (heretofore called Extension Programs or Area Health Education Center).

### **SOUTH CAROLINA CONSORTIUM OF COMMUNITY TEACHING HOSPITALS/AHEC**

The South Carolina Consortium of Community Teaching Hospitals is a comprehensive health education program composed of Graduate Doctor Education, Statewide Family Practice Residency System, and Area



Health Education Centers. Graduate educational programs are provided for dentistry, pharmacy, nursing, and allied health sciences. Undergraduate clinical training is provided in medicine, dentistry, pharmacy, nursing and allied health. Manpower training in the many health professions serves as an additional activity. Special programs for minority students to foster their interest and improve their chances of selecting and being admitted to health career programs are sponsored. Pre-collegiate health fairs are held at the state's high schools in all regions.

There are seven regional centers: Catawba-Wateree, Greenville, Low Country, Midlands, Pee Dee, Spartanburg, and Upper Savannah. Greenville, Spartanburg, and Midlands are the three original sites and are community hospital based, with Greenville Hospital System, Spartanburg General Hospital and Richland Memorial Hospital serving as the bases. Pee Dee, the fourth center to be established, is also hospital based with McLeod Regional Medical Center serving as its base. The three additional Area Health Education Center (AHEC) sites, Upper Savannah, Catawba-Wateree and Low Country, are rural consortia. Family Practice Centers are located in Greenville, Spartanburg, Columbia, Anderson, Greenwood, Florence and Charleston.

The various educational training is supported by a statewide educational resources network which provides library and audiovisual services. Additional support is provided in the way of comprehensive administrative, financial, and statistical services. These services provide the legislative liaison, planning, coordination, and monitoring necessary in a system of this magnitude.

### **Medical Education**

In 1982-1983 the Consortium had 378 residents on staff in its Graduate Doctor and Statewide Family Practice Systems. In the Graduate Doctor program a total of 195 residents were distributed as follows: emergency medicine 16, internal medicine 46, ob/gyn 22, ophthalmology 7, orthopedics 25, pediatrics 25, surgery 44, and flexible interns 10. Family Practice had 183 residents on staff, Anderson 24, Greenville 27, Greenwood 11, Florence 15, Midlands 28, Spartanburg 35 and Charleston 43. Of the 91 residents at the regional sites who completed their training, 42 were in family practice (does not include Charleston), 12 general surgery, 13 internal medicine, 7 pediatrics, 4 ob/gyn, 5 orthopedics, 2 ophthalmology, and 6 emergency medicine. Of those completing training 49 remained in South Carolina.

In undergraduate medical education, 131.5 electives and an additional 7 core psychiatry rotations were taken at consortium sites. Enrollment for medical electives accounted for 582 student weeks plus additional student weeks for core psychiatry. Clinical electives were offered at McLeod,



Greenville, Anderson, Self Memorial, Spartanburg, and Richland Memorial Hospitals.

### **Dental Education**

The consortium involved all senior dental students in its extramural dental program. Extramural sites included: Richland Memorial Hospital, Beaufort-Jasper Comprehensive Health Care Center, Coastal Center, Pacolet, McCormick, Navy and VA Hospitals in Charleston, MUH Dental Services, Crafts-Farrow, Esau Jenkins, Johns Island and Charleston County Public Health.

### **Pharmacy Education**

Four MUSC Doctor of Pharmacy candidates took 22 weeks of rotations in Lexington, Lewisville and Pacolet. Eighteen University of South Carolina Pharmacy students took 70 weeks of extramural rotations at Lexington, Lewisville, Pacolet, and Anderson. Six additional students went to Sea Island.

### **Nursing and Allied Health Education**

The Consortium provides graduate and undergraduate students with clinical training by working with various colleges, universities, and technical schools. The Consortium member hospitals provide the clinical facilities to augment the student's didactic training. This year there was an average of 33 graduate and 659 undergraduate nurses per month taking clinical rotations at consortium sites. There was an average of 8 graduate and 288 undergraduate allied health students per month taking clinical rotations at consortium sites.

### **Manpower Training**

The Consortium held 1,289 manpower training Continuing Education programs for practicing health professionals at its seven regional sites. Nearly 33,000 participants were recorded as having attended these programs. Cumulative hours of training for disciplines (excluding medicine) was 166,951.7 hours. Every county in the state served as a program site.

### **Health Manpower Projects**

With the aid of federal funds, two special projects were developed to enhance current consortium activities. These programs, known as the On-Site Consultation Projects and GOLIATH, were aimed at specific target groups.

The On-Site Consultation Projects targeted small, rural hospitals in need of educational support as recipients. Named to participate were Bailey Memorial, Georgetown County Memorial, Allendale County, Can-

non Memorial, Fairfield Memorial, Wallace Thomson, and Chester County Hospitals. These sites have received educational programs in-house, specifically designed for their own special needs. This project has generated the enthusiastic approval of all participants.

GOLIATH targeted minority colleges as recipients of its activity. GOLIATH was designed to provide minority colleges with computer linkages to each other, the Medical University and appropriate information data bases and information systems. GOLIATH will allow minority colleges and libraries to develop recruitment and library information systems particular to their needs.

### COLLEGE OF DENTAL MEDICINE

The College continued its basic four-year curriculum with 16 graduates in December and 41 in May. One faculty member took advantage of the University's Upward Mobility Program and received his dental degree in May.

Reductions in funding and freezes on personnel and equipment purchases presented problems this past year. A dental clinic, which had operated for eight years in the Family Practice building, was closed. The graduate prosthodontic program was dropped and there was a reduction in the time students spent at extramural sites. The College managed to adjust effectively to the new conditions.

Though three faculty members retired, it is anticipated that all will continue to serve in some part-time capacity. Meanwhile, Dr. Brad Neville became a Diplomate of Oral Pathology; Dr. Michael Myers, a Diplomate of Prosthodontics, and Dr. Tariq Javed, a Diplomate of Periodontics. Dr. John Hembree was inducted as a Fellow into the International College of Dentists. Many faculty members continue to serve on national advisory panels.

Part-time faculty made an outstanding contribution to teaching and their efforts were deeply appreciated. Also, various faculty assisted the Charleston Commissioners of Public Works in the program to add controlled fluoride to the Charleston water system.

Ms. Joyce Nettles, a dental assistant in the Pedodontics Department, was elected president of the South Carolina Dental Assistants Association. Mrs. Betty Ochoa offered special courses for dental assistants in the state to meet new radiologic requirements being placed on them by regulating agencies.

County Health and Veterans Administration dentists have helped solve the College's manpower problem and steps have been taken to continue this relationship. Many faculty made new television tapes and updated their teaching assignments during the year.



Two departments had office renovations completed following four years of planning. Previously, faculty in these departments were on different floors and spread throughout the College. These changes allow for better communications and much more efficient operations. The research area is now being better utilized by clinical departments and students are also showing a greater interest in research.

The extramural program continues to be one of the best offered by any dental college. The dental school clinic facilities were used by Florence-Darlington Technical Education Center's dental assistant students to fulfill their clinical requirements.

While the number of applicants to many dental colleges has dropped considerably, the MUSC applicant pool remained constant. There were 120 applicants for an entering class of 49. In other student-related activities, the student newspaper, *The Articulator*, was published three times and the first issue of the *DMD MAGAZINE* was issued. MUSC students continue to be accepted into numerous residency programs and the results on national and state boards have been very acceptable. The South Carolina Dental Association changed its constitution to allow a student to become a voting member in the Dental Association's House of Delegates.

Some changes were made in the Oral Diagnostic Clinic which have served to improve patient assignment. The fourth year comprehensive clinic functioned well considering the limited number of faculty and staff available to operate it. While 25 percent of dental colleges are reporting problems obtaining sufficient patients in all clinical areas, this problem has not reached MUSC yet. Emphasis is being placed on total health care for the patient, with the maintenance and preventive areas strengthened. Dentistry for the handicapped is also receiving more attention.

Continuing education is an integral part of the educational process for the dental health team. The past year, 20 courses were offered for dentists, hygienists and dental assistants in five different locations. Five of these courses were given by MUSC faculty. Many faculty gave one to two-hour lectures throughout South Carolina to professional organizations, some of these programs sponsored by the Area Health Education Center. The College is planning on 22 continuing education courses next year and is considering three additional locations.



## COLLEGE OF GRADUATE STUDIES

Graduate programs require mastery of a major field of knowledge and demonstrated ability to carry out independent and original investigation. The curricula offer an opportunity to prepare for a career as research assistant, investigator, or teacher.

TABLE I

### *Student Application Data*

<i>Students</i>	1982	1983
Applying .....	145	130
Accepted .....	46	48
Admitted .....	26	24
Graduated		
M.S. ....	6	4
Ph.D. ....	18	12

The number of applicants for 1983 fell just slightly in keeping with the national trend, but admission qualifications rose appreciably.

TABLE II

### *Student Qualifications for Admission*

	1982	1983
GPA .....	3.24	3.40
GRE .....	1206	1300

TABLE III

### *Graduate Student Distribution\**

	M.S.	Ph.D.
Anatomy .....	1	4
Biochemistry .....	2	8
Biometry .....	18	16
Immunology .....	—	15
Pathology .....	—	7
Physiology .....	3	—
Pharmacology .....	—	11
Molecular-Cellular Biology .....	—	11
Medical Scientist .....	—	11

\*These figures as of Summer Semester 1983 include part-time students and those on leave of absence.

### Medical Scientist Training Program

Now under the supervision of Dr. Steven Brostoff, this program was successful in its recruiting efforts. Four new candidates were admitted to the Colleges of Medicine and Graduate Studies to pursue an educational program designed to produce clinical investigators. Their qualifications were as follows:

TABLE IV

<i>Average GPA</i>	<i>Average GRE</i>	<i>Average MCAT</i>
3.67	1100	65

Undergraduate institutions from which these students graduated were: Bethel College, College of Charleston, Michigan State University and Middlebury College.

### Postdoctoral Fellowships

The College sponsored 18 postdoctoral trainees who are required to seek extramural support for subsequent training.

TABLE V

<i>Department</i>	<i>Number</i>
Anatomy . . . . .	1
Pharmacology . . . . .	3
Pathology . . . . .	1
Neurology . . . . .	2
Biochemistry . . . . .	1
Medicine . . . . .	4
Immunology . . . . .	3
Marine Biomedical Research . . . . .	1
Ophthalmology . . . . .	1
Biophysical Dentistry . . . . .	1
	<hr/> 18



TABLE VI

*Summer Undergraduate Research Program*

<i>Student's Institution</i>	<i>No.</i>	<i>MUSC Department</i>	<i>No.</i>
Clemson University . . . . .	1	Family Medicine . . . . .	1
Princeton University . . . . .	1	Physiology . . . . .	1
Davidson College . . . . .	1	Biochemistry . . . . .	3
College of Charleston . . . . .	1	Nuclear Medicine . . . . .	1
Bridgewater College . . . . .	1	Medicine . . . . .	1
Queens College . . . . .	1	Pathology . . . . .	1
Swarthmore College . . . . .	1	Ophthalmology . . . . .	1
Bowling Green State Univ. . . . .	1	Pediatrics . . . . .	1
Erskine College . . . . .	1	Neurology . . . . .	1
Canisius College . . . . .	1	Pharmacology . . . . .	1
University of Kentucky . . . . .	1		
Denison University . . . . .	1		

The College mailed out 892 information packets throughout the nation, receiving 89 responses and accepting 12 students into the program. In addition to gaining research experience, the students are participating in a weekly seminar series to expose them to the wide range of problems being addressed by the Medical University faculty. They will present the results of their own research projects at a final session in August.

A High School Minority Research Apprenticeship and a Short Term Research Training Program for health professional students were again funded federally this summer and should help in recruitment for graduate school and in increasing the awareness of the importance of biomedical research.

**Visiting Professors**

The Basic Science Graduate School Seminar Committee was responsible for the following Seminar speakers during the year: Dr. John H. Carson, University of Connecticut Health Center; Dr. Robert E. Cone, Yale University; Dr. Harvey V. Fineberg, Harvard School of Public Health; Dr. Patrick D. Harris, University of Louisville; Dr. M. M. B. Kay, Olin E. Teague Veterans Center, Temple, Texas; Dr. Joseph M. Kinkade, Emory University; Dr. Fred Rapp, Pennsylvania State University; Dr. Eric Shooter, Stanford University Medical School; and Dr. Savio L. Woo, Baylor College of Medicine.

The College also helped the Graduate Student Association sponsor a lecture by Dr. Gunter Blobel of Rockefeller University.



### Graduate Student Travel

As an additional means of improving communication between the Medical University and the national scientific community, the College provided travel support for eight students to eight national meetings where they presented papers.

### Department of Biometry

Biometry is concerned with the application of statistical, computing, and systems science techniques to problems in biomedicine. During the year, the Department was notified of funding for the Cardiometrician Training program. The grant, approved for a five-year period, will support two pre-doctoral students the first year, four the second and six the third year on. Drs. M. Clinton Miller, III, and Julian Keil are co-principal investigators.

Also funded was a pre-doctoral fellowship for Calvin Williams by the Upjohn Pharmaceutical Company. The fellowship provides \$8,000 for stipend and other student costs, and the fellow is permitted to work at regular salary for Upjohn in Kalamazoo, Mich., during the summer.

Members of the faculty provided computer and statistical support for more than 513 independent projects within and outside the University. Biometry Computer Center hardware configuration and software systems remained fairly stable with the exception of the addition of a 675 megabyte disk and  $\frac{1}{4}$  megabyte of memory. An on-line information system for the Tumor Registry, interactive on-line patient information system for the Normal Newborn Nursery, a follow-up Statewide Perinatal Information System and word processing systems have been added to the Prime Computer.

Under cooperative arrangements with local institutions, eight faculty members and graduate students taught 16 courses with combined enrollment of 419 students for the College of Charleston (7) and The Citadel (9). Meanwhile, two College of Charleston faculty members taught courses for MUSC, and MUSC students continued to enroll in the College of Charleston's advanced mathematics courses.

Faculty research continued to receive wide attention. Projects included *Statistical Catastrophe Theory and Its Applications* (Cobb, Smith, Harrison), *Modeling of Enzyme Kinetics* (Lam), *Survival Distributions and Reliability* (Gross), *Pesticides and Heavy Metal Epidemiology* (Loadholt), *Hospital Evacuation* (Rust), and *Neonatal Patient Information Systems* (with continuous funding).

The faculty made 21 presentations before learned societies, and authored or co-authored 43 publications including a book and 6 abstracts.

The Department offered short courses in Biomedical Computing to 120 MUSC faculty and staff members, and taught an Introduction to Micro-

computing Course to 87 primary, middle and secondary public school teachers. This program was sponsored by the Charleston Higher Education Consortium, Charleston and Sumter County School Systems, and the Medical University.

Since the Department's creation in 1969, it has authored or co-authored 495 publications and 279 papers, and in the past 12 years has provided analytic support for 2,447 projects.

## COLLEGE OF PHARMACY

All courses to be offered for the Ph.D. program in pharmaceutical sciences were approved by the College of Graduate Studies. Announcements of this new program were sent to colleges throughout the country and recruitment was undertaken at national meetings. Funding in the amount of \$6,400 was received from pharmaceutical companies to support development of this new offering.

As a result of a study by a special committee on recruitment chaired by Dr. Nancy Robertson much greater emphasis is being placed on high school visitations, particularly in the Tri-county area, and a brochure is being prepared to be directed to high school and entering college students. A grant application for \$17,200 to prepare a slide tape and video presentation for statewide showing was approved by the American Association of Colleges of Pharmacy.

In another new development, the Nutritional Support Residency was the first residency in the country approved by the American Society of Hospital Pharmacists for specialty accreditation.

Dr. James E. Wynn, new chairman of the Department of Pharmaceutical Sciences, was named recipient of the Golden Mortar and Pestle Award as outstanding teacher for 1982-83, and Dr. C. Wayne Weart for the third time received the Golden Oyster Award as the outstanding clinical teacher in Family Medicine. Dr. Keith Miller and F. Joseph Hodge received special recognition for their contributions to the Explorer Scout program at the Medical University.

Eleven members of the faculty had a total of 28 articles published in scientific or professional journals. Dr. Edward Hartshorn was author of a text, "Drug Interaction Update — 1982", published by the American Society of Hospital Pharmacists, and two faculty members revised the "Pharmacy Practice Manual for the Extern and Preceptor."

The faculty presented 84 seminars throughout the state and country on all aspects of professional and scientific pharmacy. In addition, the College began extensive use of the Health Communications Network to discuss selected drug topics. Twenty-one programs were given in association with the Low-country Area Health Education Center.



The Student American Pharmaceutical Association in cooperation with student organizations in other MUSC colleges continued its participation in local hypertension and diabetes screening clinics held in shopping malls in the greater Charleston area. The Rho Chi Society, working with faculty, visited many high schools throughout the Trident area talking to students about career opportunities in pharmacy. The Society also provided a free tutorial service for students in various academic subjects.

Research was supported by a variety of sources as follows:

Dr. John Hynes, \$31,000, National Cancer Institute; \$21,056, World Health Organization; and \$25,485, MUSC Institutional award, to help facilitate drug research through the purchase of a Preparative High Performance Liquid Chromatograph.

Dr. W. G. Walter, \$14,984, Epilepsy Foundation, to study the "Analeptic Substance with Sustained Action from Chinaberry Juice".

Dr. James E. Wynn, \$16,675 contract, R. P. Scherer Corporation, to compare Vitamin A blood levels from four different capsule formations, and \$6,000 contract, The Upjohn Company, to study the effect of Kaopectate concentrate versus placebo on non-specific diarrhea.

Dr. Nancy Blumer, \$1,400, Institutional Research grant, to study the use of transdermal scopolamine as an antiemetic for chemotherapy.

Dr. Richard Crass and Dr. John Cormier, \$18,737 contract, Burroughs-Wellcome, to study the bioavailability of a potentially new drug, and Dr. Crass and Dr. Nancy Robertson, a contract from the I-Med Corporation, to comparatively study intravenous sets.

Nancy Louie, \$2,500, Roche Laboratories, to study folic acid requirements.

## COLLEGE OF NURSING

The past year was a year of change in almost every phase of the College, and a time of prideful reflection as the College celebrated its Centennial in April. Thus, two major themes predominated: reflection and anticipation.

Virginia Henderson, Research Professor Emeritus of Yale University, inaugurated Centennial activities with a superb lecture at the Sheraton Charleston Hotel on April 8. At a banquet that evening Alumni were treated to a review of the history of the College, skillfully reenacted by a special cast of alumni. The official celebration ended the following day with the dedication of the Ruth Chamberlin Historical Library and a brunch at Roper Hospital.

The College is scheduled for a National League for Nursing accreditation site visit in the fall of 1984. A timetable was established during the year giving direction for the work that needs to be completed before the visit.



Even as the College focused considerable attention on the accreditation process, it recorded a number of major accomplishments. Its graduating class again achieved the highest passing rate for the State Board Examination of any baccalaureate program in the state, a 98 percent pass rate, and all students who took the national American College of Nurse-Midwives certification examination passed. In other activities, several major curriculum revisions were completed, including those for first level courses; off campus sites were again used for the teaching of the summer practicum course; faculty were highly active in community health projects; and research presentations were made at the Southern Surgical Association's convention in Atlanta.

In the undergraduate program a semester-long search and screening of candidates for the position of Assistant Dean culminated in June with the appointment of Mary Ann Christ, Ed.D. A faculty member of the University of Florida, she has had experience both as a nurse practitioner and teacher.

The original graduate curriculum was terminated this year and steps were completed for implementing the reordered major in Medical-Surgical Nursing. Recruitment of additional faculty for the program, while limited in scope, was successful. Dr. Melodie Olson, whose preparation is in Medical-Surgical Nursing and College Administration, will join the group in August. Student recruitment will result in a class of 16 to 18 for the coming year.

The College has received Professional Nurse Traineeship Awards for the past two years, allowing for an increase in the number of graduate students studying full-time. It is anticipated full-time enrollment will be the prevailing pattern as the result of this funding and the new curriculum design. Efforts were made to identify future directions for the graduate program and work was begun on establishing a second major in Nursing Service Administration for 1984-85.

The self-study report of the Nurse-Midwifery Education Program was prepared for the Division of Accreditation of the American College of Nurse-Midwives and the program was reaccredited in December for a five-year period. The following month the position of program director was filled by Kathleen Higgins after Eileen Hicks departed to work in medical missions in Kenya, Africa. Other recruitment efforts were halted because of budget restrictions. A training grant has been submitted to the U. S. Department of Health and Human Services to support "Enhancement of Nurse-Midwifery Education".

The growing baccalaureate program for Registered Nurses had a fall enrollment of 74 divided among three institutions, 29 at the MUSC-Winthrop College Satellite, 10 at the MUSC-Francis Marion College Satellite and 35 at the College of Nursing in Charleston. An additional 22

registered nurses were enrolled in the spring semester, nine at Francis Marion and 13 at Winthrop.

The Francis Marion Satellite experienced an especially good increase in enrollment. The first students to enter the program, five in number, were admitted in January, 1982, with four of them to complete degree requirements in August, 1983. The number more than quadrupled to 19 in the Spring 1983 semester. In view of the continuing growth a full-time department chairperson, Dr. Marian Larisey, and an additional faculty member, Kathleen Koon, have been hired to provide a full range of support services.

The satellite at Winthrop, now in its fifth year of operation, will have a student population of 51 next fall, a 55 percent increase over the previous year. In the past year, for the first time, students from Camden were commuting to classes, and the first male student was enrolled. This summer, students are also commuting from Statesville and Mooresville, N. C. In August, six registered nurses will complete degree requirements, making the total number of graduates 51.

The Winthrop satellite has operated with the same four faculty members since Fall 1981. Having stable faculty has allowed the program to develop more fully in the area of curriculum. Each faculty member has taught the first two RN transition courses, and each has developed an elective course in her area of expertise. The fifth year of federal funding ends August 31, 1983, after which the satellite will be completely state funded.

## COLLEGE OF ALLIED HEALTH SCIENCES

The number of qualified applicants for baccalaureate, advanced certificate and graduate programs, following the trend of the past decade, continued to grow appreciably. With selection made on a one out of three applicant basis, the college admitted one of the finest classes in history.

Further, applicants to Physical Therapy, Extracorporeal Circulation Technology, Anesthesia for Nurses and Occupational Therapy placed the College of Allied Health Sciences (CAHS) among the most competitive in the country in these fields. This application picture was one of mixed blessing; while the College had an excellent pool from which to draw, it also had to turn down far greater numbers than was the case some years ago. As of June 30, 1983, College programs had accepted for this entering summer and fall class 148 persons out of an applicant total of 413. The 1,547 applications mailed out on request by that date represented an approximately 25 percent increase over the previous year. Many of these were out-of-state or had not met prerequisites or were not academically qualified and thus were not listed in the final competitive applicant list.



The College continued to give in-state preference at the level of 80 to 90 percent in most programs, with applicants coming from across the entire State.

On the other hand, a number of applicants to the conjoint Lower Division programs conducted with Trident Technical College (TTC) continued to reflect poor primary and secondary educational backgrounds. A fairly high student loss rate, varying by program, was a problem which could be directly attributed to the quality/quantity level of the applicant pool. Costs associated with high attrition thus remained a matter of concern for both institutions. The Ophthalmic Technician Program was recommended for closure by TTC as of 1984 due to the applicant and attrition problem.

Position placement for the record number of 317 Upper Division and Lower Division graduates remained excellent during the reporting period. A choice of jobs existed, both across the state and nation. Some graduates continued to press for placement in Charleston where the job market could not absorb everyone but this was a problem that was easily corrected once it was decided to go elsewhere. Perhaps 20 percent of the Upper Division graduates continued to locate in the Charleston area and 50 to 80 percent, varying by program, stayed within the state. The more locally oriented Lower Division continued to place in the tri-county area at perhaps 80 to 95 percent levels, varying again by program. Out-of-state competition for CAHS graduates remained strong during the year, causing some South Carolina positions to go unfilled. A major factor was the higher salary scales generally offered in surrounding regional states and especially the larger cities.

Graduates on an overall basis continued to perform slightly above national averages in their licensure, registry or certification examinations. Upper Division graduates in several cases recorded scores that were in the upper third nationally.

A Department of Health Services Administration was approved by the University Board of Trustees as a means of organizing and coordinating associated functions. The Master in Health Sciences Program and the Medical Record Administration Program carry out their functions under the auspices of this new University department. Courses and activities involving facilities and personnel management, business affairs and administration in general are provided to all of the Allied Health programs through this Department in a manner somewhat analogous to that of the provision of basic science courses through respective departments.

Due to the loss of sufficient federal funding, the Physician's Assistant Program was phased out after 11 years of operation. Its final class completed studies in May, 1983.

The basic professional option curriculums in Radiography and Respira-



tory Therapy were also phased out as of May. Ladder type option curriculums in these two fields were retained as baccalaureate degree efforts. In the future only those applicants who have finished entry level professional training in accredited one and two-year programs will be considered for baccalaureate degree work in radiography and respiratory therapy in the Upper Division. Two-year graduates of the units of the various technical colleges in the state are expected to continue to utilize these remaining options to advance themselves to the baccalaureate level. An evening hours offering of these curriculums will begin this coming fall in order to meet the schedules of the working technologist population.

The off-campus offering of the Master in Health Sciences curriculum in the upstate Piedmont region attracted an excellent student body and considerable community support. Requests from other areas of the state asking for such a graduate unit were received and are under review, with basic limitations involving potential student numbers and cost recovery funding sufficient to meet operational costs.

Of continuing concern to the College have been the problems of space and widely separated facilities.

## OFFICE OF STUDENT PROGRAMS

The University Student Affairs Committee has become more active, providing a focus for better interaction among the colleges' student affairs staffs and a means for evaluating student service needs. First efforts in this direction resulted in coordination of some aspects of the fall 1983 orientation program. It is anticipated this committee will be a valuable resource in developing more effective student services.

Academic performance by MUSC students, from such objective measures as board scores, internship and job placements, continues to rise each year. The number of students involved in extracurricular activities has also increased significantly, although the increase in student activity is primarily in professionally related areas such as interdisciplinary health teams, health fairs, and project Superhealth 2000 in which MUSC student volunteers address school and other community organizations on current health issues.

The campus ministers are organizing to present a higher profile on campus and to be more accessible to students. Working through the Chapel Committee, they plan to schedule times on campus when they will be available to counsel with students.

A top priority for the 1983-84 academic year for the Student Programs Office is to work more closely with the Alumni Office to involve students in Alumni Development Programs.

During the 1982-83 academic year, substantial progress was made toward computerizing records of the Student Financial Aid Office. This

effort fits into the University goal of constructing a common student information base for the university. The computerized financial aid system has been designed for implementation with minimal operational disruption. Approximately 75 percent of the system is currently in place.

A review of financial assistance for students over the past three years demonstrates the need to increase private funding for this area.

# **STUDENT FINANCIAL AID COMPARISONS OF DATA FOR ACADEMIC YEARS 1980-1983**

	<i>Grants &amp; Scholarships</i>			<i>Loans</i>		
	80-81	81-82	82-83	80-81	81-82	82-83
Dollars	\$1,467,106	\$2,013,928	\$1,299,260	\$3,239,790	\$2,569,676	\$3,325,340
Number of Unduplicated Recipients	410	538	378	796	818	764
	<i>Employment</i>			<i>Totals</i>		
	80-81	81-82	82-83	80-81	81-82	82-83
Dollars	\$746,661	\$802,843	\$746,031	\$5,453,557	\$5,386,447	\$5,370,631
Number of Unduplicated Recipients	506	584	495	1,219	1,466	1,440

Some students receive aid from Grants, Loans and Employment and are counted only once in Totals Column.

<i>Percentage Of Enrollment On Aid</i>			
	80-81	81-82	82-83
Enrollment	2,157	2,158	2,102
Unduplicated number on aid	1,219	1,466	1,440
% of student enrollment on aid	56%	68%	69%

<i>Percentage Of Dollars Lost Due To Budgetary Constraints Over Period</i>	
	9.8% Reduction in Support for Students from 1980-81 to 1982-83



**TOTAL FUNDS  
ALL PROGRAMS  
1982-83**

	<i>Dollars</i>	<i>Number of Awards</i>
<b>Grants</b>		
Pell .....	\$109,509	182
Supplemental Educational		
Opportunity Grant (SEOG) .....	17,061	32
Vocational Rehab .....	2,090	2
State & Local .....	62,000	10
Private Sources .....	21,855	15
Institutional .....	106,050	64
Tuition Waivers .....	1,430	2
All Others .....	563,910	64
* Unduplicated recipients .....	261 students	
<b>Loans .....</b> Cash Repayment Only		
National Direct Student Loan (NDSL) .....	436,365	222
Federally Insured .....	749,604	222
State Insured .....	1,786,012	477
Institutional .....	27,800	17
Private Sources .....	7,200	3
<b>Loans .....</b> Cash or Service Repayment ...	318,359	130
<b>Scholarships</b> .....	21,220	29
<b>Student Employment</b>		
Federal Program Work Study .....	91,064	74
Institutional Employment .....	654,967	426
Graduate Assistantships .....	394,135	90
<b>Grand Total</b> .....	\$5,370,631	2,061

**UNIVERSITY REGISTRAR AND DIRECTOR OF ADMISSIONS**

In recent months, several of the colleges have expressed the need for additional support of their student recruitment, admissions, registration and record keeping activities. Additionally, the new University Registrar and Director of Admissions has requested that certain responsibilities be reassigned to this office, more specifically, the preparation and publication of the University catalog. It is anticipated that preparation of other academic publications and recruitment brochures can also be assumed by

this office working in coordination with the Public Relations and other appropriate departments.

The increased activity has necessitated the reorganization of the office staff and the reassignment of duties. Reclassification is being sought for five of the positions to reflect the responsibilities of those positions. Two new staff positions are also being requested.

### **Admissions**

This office continues to coordinate admissions activities for the College of Medicine; a total of 960 applications was received and 280 applicants were interviewed for the 165 positions. The staff has been active in providing information to the chairman of the admissions committee in his effort to revise admissions policies.

One staff person is assigned full-time to support admissions activities in the College of Allied Health Sciences. In the office reorganization, a senior level staff person is being assigned to serve as a liaison with the Admissions Committees of all six colleges to increase support of their activities. The College of Nursing recently requested this office to assume a more active role in its admissions process.

### **Records/Registration**

Academic records are established and maintained for more than 2,000 students who registered for a total of approximately 70,000 credit hours. The computer-based records provide the hard copy file which is micro-filmed after graduation.

The backlog of hard copy files from previous years is being micro-filmed as rapidly as possible with approximately two years of work yet to be done. The purchase of a top quality microfiche reader/printer has ensured the production of good quality transcripts from existing microfiche files.

Students in all colleges are pre-registered near mid-term each semester. Registration fix-up at the beginning of each term has been centralized with all involved groups participating. These include Registrar, Financial Aid, Financial Aid Accounting, Parking Management, Security and Student Activities.

### **Continuing Education**

The record keeping operation for participants in programs sponsored by the Division of Continuing Education has been completely assumed by the Registrar's Office. The entering of new computer records, the verification of existing records and the computerizing of the record backlog continues. The on-line and batch systems have been revised to improve operational and reporting efficiency. The records of all participants



attending Continuing Education activities are maintained, rather than only those who request credit.

### **Computer Utilization**

Several offices have taken advantage of the capability to access student and admissions files for which they have informational need. The offices of the deans of Allied Health Sciences, Medicine and Nursing as well as Financial Aid and Student Accounts Receivable have access to these files provided by terminals on-line to the central computer. This has greatly reduced the time spent relaying information by telephone.

The on-line computer transactions generated by Admissions, Records and Registration, and Continuing Education activities of this office result in a monthly average of 313,000 input/output operations. Batch reporting generates a monthly average of 1,144,000 input/output operations. These activities require a monthly average of 4.16 hours of central processing units (CPU) time. This office is beginning an investigation into the efficiency of programs that require a large amount of CPU time.

Word processing equipment has been requested which will be compatible with the long range data and word processing plans of the University. Word processing capability is essential to the modernization of this office.

### **Space Utilization**

An inventory of all classrooms, conference rooms, libraries and available meeting rooms has been completed and entered into the computer. A basic space utilization system has been developed and features on-line schedule reporting and room search within simple parameters. A batch reporting system backs up the on-line system. Further refinement of the project is under way.

A survey of classroom needs is being undertaken. Changes in curricula and methods of instruction are making demands for types and sizes of rooms that are minimally available on this campus. It may become necessary to redesign some of the existing classrooms and to acquire additional classroom space.

## UNIVERSITY ENROLLMENT

1982-83

### Post Doctoral Fellows, Residents, and Interns

Post Doctoral Fellows .....	33
Residents and Interns	
Residents — Medicine .....	351
Interns — Medicine .....	36
Residents — Dental Medicine .....	13
Residents — Pharmacy .....	<u>5</u>
TOTAL — MUSC Residents and Interns .....	405

### S. C. Consortium Hospital Interns and Residents

Anderson ** .....	22
Charleston * .....	(42)
Columbia .....	123
Florence ** .....	15
Greenville .....	101
Greenwood ** .....	11
Spartanburg .....	55
TOTAL — S. C. Consortium Hospital Interns and Residents .....	327
ON CAMPUS — Residents and Interns .....	405
OFF CAMPUS — Residents and Interns .....	<u>327</u>
TOTAL — Post Doctoral Fellows, Residents and Interns	765

### College of Graduate Studies

Doctor of Philosophy .....	67
Master of Science .....	<u>27</u>
TOTAL .....	94

### College of Medicine

First Year .....	165
Second Year .....	162
Third Year .....	157
Fourth Year .....	<u>154</u>
TOTAL .....	638

\* Included in MUSC Residents

\*\* Statewide Family Practice Residency System only



### College of Dental Medicine

First Year .....	52
Second Year .....	55
Third Year .....	57
Fourth Year .....	<u>56</u>
TOTAL .....	220

### College of Pharmacy

Doctor of Pharmacy	
First Year .....	15
Second Year .....	<u>15</u>
TOTAL .....	30

#### Baccalaureate Program

Third Year .....	39
Fourth Year .....	37
Fifth Year .....	33
Visiting .....	2
Special .....	2
TOTAL .....	<u>113</u>

TOTAL — College of Pharmacy ..... 143

### College of Nursing

Master of Science in Nursing ..... 17

#### Baccalaureate Program

Second Year .....	63
Third Year .....	106
Fourth Year .....	<u>114</u>

    TOTAL — Baccalaureate ..... 283

Nurse Midwifery (Certificate Program) ..... 9

    TOTAL — College of Nursing ..... 309

### College of Allied Health Sciences

Master in Health Sciences ..... 79

Special Students — Master in Health Sciences ..... 8

    TOTAL — Master in Health Sciences ..... 87

Postbaccalaureate Certificate Program ..... 38

Baccalaureate Programs ..... 259

Special Students — Baccalaureate ..... 4

    TOTAL — Baccalaureate ..... 263

Joint Programs with Trident Technical College	
Associate Degree .....	156
Certificate Programs .....	<u>89</u>
TOTAL — Associate and Certificate .....	<u>245</u>
TOTAL — College of Allied Health Sciences .....	633

#### Non-Degree Program

Unclassified .....	32
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#### ENROLLMENT SUMMARY

Post Doctoral Fellows .....	33
MUSC Residents and Interns .....	405
Consortium Hospital Interns and Residents .....	327
TOTAL — Post Doctoral Fellows, Residents, and Interns .....	765
MUSC Colleges	
Graduate Studies .....	94
Medicine .....	638
Dental Medicine .....	220
Pharmacy .....	143
Nursing .....	309
Allied Health Sciences .....	388
Joint Allied Health Sciences Programs	
with Trident Technical College .....	245
Non-Degree Program (Unclassified) .....	<u>32</u>
TOTAL Colleges .....	2,069
GRAND TOTAL .....	<u>2,834</u>

#### DEGREES AND/OR CERTIFICATES CONFERRED

1982-83

House Staff	
Certificate	
Residents — Medicine .....	123
Interns — Medicine .....	12
Residents — Dental Medicine .....	2
Residents — Pharmacy .....	5
S. C. Consortium Hospital Interns and Residents .....	<u>92</u>
TOTAL .....	234
Graduate Studies	
Doctor of Philosophy .....	12
Master of Science .....	<u>4</u>
TOTAL .....	16



Medicine	
Doctor of Medicine .....	151
Dental Medicine	
Doctor of Dental Medicine .....	57
Pharmacy	
Doctor of Pharmacy .....	15
Bachelor of Science .....	32
TOTAL .....	47
Nursing	
Master of Science in Nursing .....	14
Bachelor of Science in Nursing .....	102
Nurse Midwifery Certificate .....	9
TOTAL .....	125
Allied Health Sciences	
Master in Health Sciences .....	21
Postbaccalaureate Certificate	
Anesthesia for Nurses .....	10
Cytotechnology .....	4
Physician's Assistant .....	17
TOTAL .....	31
Bachelor of Science	
Cytotechnology .....	6
Dental Hygiene .....	13
Extracorporeal Circulation Technology .....	5
Medical Record Administration .....	13
Medical Technology .....	25
Occupational Therapy .....	15
Physical Therapy .....	28
Radiologic Technology .....	13
Respiratory Therapy .....	11
TOTAL .....	129
MUSC/Trident Technical College Programs ***	
Associate Degree	
Dental Assisting * .....	19
Dental Laboratory Technology ** .....	6
Histotechnology * .....	1
Medical Laboratory Technology * .....	4
Ophthalmic Technician * .....	7
Radiologic Technology * .....	16
Respiratory Therapy * .....	13
TOTAL .....	66

# Certificate

Histologic Technique **	9
Practical Nursing **	32
<b>TOTAL</b>	<b>41</b>
Total Allied Health Sciences	288
<b>TOTAL UNIVERSITY GRADUATES</b>	<b>918</b>

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- \* Associate in Health Sciences Degree awarded by Trident Technical College.
  - \*\* Diploma awarded by Trident Technical College.
  - \*\*\* Certificate awarded by Medical University.



## RESEARCH AND SPONSORED PROGRAMS

During the fiscal year, faculty members were awarded a total of \$11,452,810 in external direct funds for research and sponsored programs, nearly \$200,000 above last year's funding. This total included \$1,299,475 of research support for faculty located at the Charleston Veterans Administration Medical Center. This growing research effort generated approximately \$1.7 million in indirect funds for the University.

Two of the primary factors in this continued growth have been the University Research Committee's use of institutional research funds to encourage development of investigators and the strong emphasis being placed on research capability as a criterion for recruitment of new faculty.

The clinical investigator is a key link in the translation of basic research results into improved health care delivery. To encourage the development of such investigators, the University with federal support has sponsored a summer training session which this year attracted 22 students. This program is but one of four in place to enhance research training. The others offer Minority High School, Undergraduate Research and Postdoctoral Clinical Research Apprenticeships.

The increasing interest in clinical investigation on campus is evidenced by the number of active projects involving human subjects which exceeded 660 this year. The number of these studies has doubled in the past five years.

The University Research Committee met seven times during the year to review 136 applications for institutional support. A total of \$429,159 was awarded to 73 projects. Over the past four years, more than 50 percent of such projects subsequently obtained extramural support for their research, these extramural funds being five times greater than the original funding. This form of institutional support for research development is therefore a sound investment. The awards, made to 20 different departments, were used primarily for equipment and supplies to initiate new research projects.

The most dramatic increase in extramural support over the past five years has been from the corporate sector. The growth has been almost seven fold to now represent over 14 percent of the total direct support received from extramural sources.

The association of the Medical University with private corporations provides a vital linkage for an important common goal of both, the translation of knowledge identified within the University into products and procedures that have the potential to improve the prevention, diagnosis and treatment of disease.

The University now has agreements with over 70 different organiza-

tions. Although research support from industry has been primarily for clinical investigation, a number of awards have been received for programs in basic molecular research. One of these was an agreement with a large Japanese pharmaceutical firm, a three-year award of over \$500,000 for the development of a monoclonal antibody that has application to the diagnosis of cancer. It was one of the first biomedical research agreements between a U. S. university and Japanese corporation.

An active effort is being made by the University to attract industrial development to South Carolina. In close cooperation with the Charleston Development Board, it has held initial discussions with several international firms. Because of the outstanding base for research and clinical care at the University, it has drawn a positive reaction from companies visiting the area. The recent establishment of the South Carolina Research Authority will provide an additional incentive for such development. The University is actively working with local business and community leaders to identify ways to best utilize the benefits of this Authority for the Charleston area.

In addition to these types of associations, there have been opportunities to enter into cooperative agreements with foreign universities. On May 11, 1983, MUSC signed a Cooperative Agreement with Alexandria University of the Arab Republic of Egypt. With over 85,000 students, Alexandria University is the second largest university in Egypt with a full academic and research program including schools of Pharmacy, Nursing, Dental Medicine and Medicine. The principal objectives of the agreement are to: (1) Establish communication among scholars of both institutions and other interested parties in both countries; (2) Exchange scholars, students and administrators to further mutual learning and research interests; (3) Develop programs and projects linking specific academic endeavors of the two institutions.

Both institutions will share responsibility for seeking funds from national and international agencies, private and governmental. A Coordinating Committee has been organized at each institution, made up of senior faculty and administrators, to review the objectives, progress and quality of the projects and programs. An initial package of proposals has been developed, reviewed by the MUSC Coordinating Committee and forwarded to Alexandria for review. They address areas of mutually agreed upon topics such as genetic diseases, dental care and prevention, parasitic and infectious diseases, poison control, heart disease and chronic pain.

The Guidelines for External Salary Support in University Research were approved by the Board of Trustees at its meeting in August, 1982. These guidelines require that all appropriate direct and indirect costs, including salaries of all participants, be included on all new and renewal



applications. Grants to be awarded this year will have appropriate salary funds included. Since the Guidelines provide that the Department Chairmen have the primary responsibility for the use of these funds, these new policies have provided the University, department and investigator significant new fiscal incentives for research development. These new policies could mean an increase of research support of approximately \$2 million.

## **OFFICE OF EDUCATIONAL SERVICES**

The mission of the Office of Educational Services (OES) is to provide educational support for the faculty in all aspects of the instructional program. This year, in addition to the traditional faculty development activities of workshops and seminars on specific topics, OES faculty members expanded their direct participation in the development of courses. On the basis of their activity, they now hold joint appointments in all colleges of the University and three members shared responsibility as course co-directors. It has been well established that direct, daily contact with the faculty in this fashion is much more effective over time than the episodic "workshop" experience.

In other activities, the Student Examination Evaluation Program processed more than 60,000 test papers. As in the past, seminars were available to the faculty of every college to help them utilize the information from the test report. In 1983-84 the OES will establish a Testing Center to administer this program.

Personalized Assessment of Course Effectiveness, a sophisticated system for collecting student response to instructional effectiveness, offered a second program specifically for clinical instructors. It was available for the first time in the Spring of 1982-83. Faculty members who used the system were very pleased and it will be expanded in 1983-84 to include core medicine rotations.

OES staff assisted the faculty in the development of 26 videotaped instructional units, several of these units including more than one program. It also assisted the S. C. Lung Association, Medical University Hospital Volunteer Services, Department of Personnel Services and Division of Continuing Education to develop instructional/training materials. There were 18 slide-tape and slide-monograph programs developed for three courses.

## **Division of Audiovisual Production**

The Illustration and Design Section placed first in a national competition of the Health Sciences Association and also earned six awards in the Charleston Advertising Federation competition. In addition, the Cinematography Section produced a film that was accepted by the American

College of Thoracic Surgeons.

The division also assisted with the installation and operation of surveillance systems by the Department of Public Safety, produced several large exhibits for the annual meeting of the S. C. Medical Association, and assisted with the publication of the MUSC Five-Year Plan and the Alumni Office publication, *Auctus*.

Equipment purchases included two camera systems for operating room and studio photography and a slide duplicator.

## LIBRARIES AND LEARNING RESOURCE CENTER

Preliminary steps have been taken to apply to the National Institutes of Health for a Resource Project Grant to initiate a computerized integrated library system allowing for the automation of many library functions and services. The computerization would automate the circulation system and provide access via terminals to monographs and journal holdings. It would have the potential of tying into the university-wide management data base and also into a statewide system.

Involvement of the University of South Carolina's School of Medicine Library and Computer Center will be sought to produce a cooperative and shared data base.

A comparison of MUSC library operations was made with those of the nation's other 12 free-standing, state-supported academic medical center libraries using the most recent data from fiscal year 1981-82.

In areas that reflect quantity, MUSC ranks as follows:

Number of Journal Subscriptions	— 7th
Total State Expenditures	— 9th
Number of Volumes	— 8th
Number of Professional Staff	— 13th
Total Staff	— 13th

In areas that reflect service, MUSC ranks as follows:

Interlibrary Loans Filled	— 2nd
MEDLINE Accesses	— 2nd
Data Base Searches	— 2nd
External Circulations	— 3rd
Total Circulation & In-House Use	— 4th

The library staff organized and hosted the 32nd annual meeting of the Southern Chapter of the Medical Library Association at the Mills House on October 14-16, 1982. There were 163 registrants from seven states and



Puerto Rico. The program included sessions on Information Needs of the Biomedical Scientist, and Academic Medical Center Librarian as Support Units: Expectations and Realities.

Also presented during the year were an ISI/BIOMED data base training session for MUSC reference staff, a Faxon's LINX demonstration for Charleston area librarians and staff, and Charleston Higher Education Consortium program on Library Applications of Microcomputers.

During the year, 6,548 monographs, bound journals and audiovisual titles were added to the collection; 2,739 current periodicals or serials were received. Total holdings numbered 151,952 items on June 30, 1983.

State appropriations declined from \$916,189 in 1981-82 to \$891,303 for 1982-83. Despite an increase of \$50,000 from indirect cost monies, expenditures in 1982-83 were less than in the prior year.

Average subscription costs continued to increase rising from \$113.82 to \$125.03, an 8.9 percent increase, and average monograph costs rose from \$34.03 to \$43.86. Of the \$1,041,303 allocated for library operations, budget strictures permitted expenditures of \$1,008,290. The \$33,000 not expended had been primarily allocated for book and journal purchases.

A total of 85,043 books, journals, and audiovisual titles were circulated.

The reference staff answered 6,815 extensive and ready reference questions, a 52.8 percent increase. A total of 6,782 computerized literature searches was run, a decrease of 3.4 percent. Interlibrary Loan and Extension Services combined efforts to produce 11,255 transactions, 4,181 less than in 1981-82. The decreases in data base searches and interlibrary loan activity are believed to be the direct result of the institution of a fee for service schedule for non-MUSC affiliated users.

## LIBRARY & LEARNING RESOURCE CENTER STATISTICS 1982-1983

### *Holdings:*

Total Holdings*, June 30, 1982 .....	146,085
Added, 1982-83 .....	6,548
Withdrawn, 1982-83 .....	681
Total Holdings*, June 30, 1983 .....	151,952
Periodicals & Serials Currently Received (2186 + 556) .	2,742

\* Monographs, bound journals, audiovisual packages.

### *Number of Interlibrary Loan Transactions:*

Incoming .....	1,744
Outgoing .....	9,096
Total .....	10,840

### *Circulation:*

Journals .....	36,165
Monographs .....	28,202
Audiovisuals .....	20,676
Total .....	85,043

### *Budget:*

State Appropriations .....	\$891,303
Indirect Cost Monies .....	150,000
Total .....	\$1,041,303

## WARING HISTORICAL LIBRARY

Dr. W. Curtis Worthington, Jr., became the new Director of the Waring Historical Library during the fiscal year. In order to make the Medical University family more aware of the Waring Library and the history of the school, Dr. Worthington inaugurated a series of Medical University History Quizzes and a Meet the Founders series of sketches which have been appearing regularly in the campus newspaper, *The Catalyst*. He has applied for a grant from the Institute of Museum Services to help with the cataloging of instruments in the Macaulay Museum of Dental History and his newly established outreach program. He attended the annual meeting of the American Association for the History of Medicine in Minneapolis in May.

The project of placing the library's rare books that need rebinding in acid-free folders was completed this year. Vapor Phase Deacidification of the books is continuing. Forty-nine books were rebound or rebacked by a master bookbinder with the help of Waring Library Society funds, and four journals were rebacked by staff assistant Betty Newsom, who took a



course in bookbinding at the Gibbes Art Gallery this year. One medical classic, the first English edition of the *Workes of Ambroise Paré*, published in 1634, was beautifully restored. This book was a gift to the library in 1979 from an alumnus, Dr. J. Preston Darby, of San Angelo, Texas.

The library continues its participation in the Eighteenth Century Short Title Catalogue of British Imprints coordinated by Louisiana State University and in the North American Imprints Program of the American Antiquarian Society. The moving of the post-1870 books from the Waring Library to the Waring Historical Library Annex in the main library is about two-thirds complete.

Ninety-six researchers used the Waring Library this year for a variety of interesting projects — blood letting and blood transfusions, Roper Hospital Admission Books, David Ramsay, Civil War medicine, privies in the 18th century and malaria in colonial times, among other subjects. Eighty letters of inquiry and well over a hundred telephone inquiries were answered. The library furnished material in photocopy or photograph to 110 persons. With the help of the Photography Department, material and photographs were provided for covers of the *Journal of the South Carolina Medical Association*. Exhibits were changed periodically in the cases inside the Waring Historical Library and in other buildings of the Medical University.

With the help of Waring Library Society funds *Medical Obituaries, American Physicians' Biographical Notices in Selected Medical Journals Before 1907*, compiled by Lisabeth M. Holloway and published in 1981, was purchased and has already proved its worth as a significant reference tool. Other books relating to South Carolina medical history were purchased, such as the first edition of J. Lawrence Smith's *Mineralogy and Chemistry*, 1873, and Thomas Thomson's *System of Chemistry*, 4 volumes, 1818, with notes by Thomas Cooper. Besides a number of 19th century and early 20th century books which were given to the library this year and the papers and memorabilia of Dr. Thomas A. Pitts of Columbia, the Waring Library received a Sike's hydrometer, made in England, circa 1850, a nasopharyngoscope, circa 1910, and 18th century temple hinged spectacles with rings at the ends to hold a ribbon. A complete listing of the library's gifts and accessions is published semiannually in *Library Notes*.

The "friends of the library" group, the Waring Library Society, completed its fifth year with a membership of 223 including some 25 students. The Society sponsored a lecture in the history of medicine in January as well as one at its annual meeting in April. An Essay Contest in the History of the Health Sciences was continued with better response from the students than in the past. Incoming freshmen of the Colleges toured the Waring Historical Library and the Macaulay Museum of Dental History during orientation days.

## STUDENT-EMPLOYEE HEALTH SERVICES

Health Services moved from 102 Doughty St. on March 30, 1983, to merge with Internal Medicine Primary Care in the University Diagnostic Center at 165 Cannon St. This move is expected to decrease costs significantly by consolidating services, personnel and supplies and expanding health service medical coverage. Because of the location away from the immediate campus, guidelines allow for employees with severe injuries and acute illnesses to utilize the 1-West Treatment Center in the hospital. They are screened by triage nurses and may then be referred to Student/Employee Health if the injury/illness is not of a severe or acute nature requiring emergency services.

Dr. James C. Thomas, whose expertise is in ambulatory health care, was appointed director of Health Services in July, 1982. Dr. W. W. Seymour was appointed associate director in June, 1983.

There were 18,993 patient visits during the year, 11,248 by employees and 7,085 by students. There were 660 "other" visits for after hour and weekend coverage of Primary Care Pediatrics and OB/GYN patients. Total visits dropped slightly below the previous year. One objective for 1983-84 is to continue to decrease visits by improving employee and student care via wellness, detection and other programs.

A 33 percent decrease in employee-illness visits was experienced, secondary to a policy change. This trend is expected to continue in 1983-84. After January, 1983, employees who had non-job-related illnesses were referred to their private physicians or the University Diagnostic Center. The number of employee service related injuries rose 16 percent over the previous year, however. There were 149 lost time accidents which accounted for a loss of 1,137 days and 286 restricted duty days.

Health Services entered its second year in the Occupational Safety and Health Administration (OSHA) program, performing 546 screenings and 568 physicals. Initial programs have been developed to address the University Touche-Ross Report to develop programs including smoking cessation, weight reduction and blood pressure monitoring to promote wellness.

Pre-employment screenings were changed to include a pre-employment limited physical examination in April, 1983. The nurse performs a screening consisting of a blood pressure check, a dipstick of the urine, vision test, hearing test, tuberculin skin test, and updating tetanus immunizations. Rubella titers are drawn on all new applicants. Rubella vaccines are administered to those who have no immunity. Cytomegalo and varicella zoster titers are drawn according to current policies involving



employee work areas. After completion of the screening, the employee is given a limited physical examination. A total of 965 pre-employment examinations was conducted.

Routine chest x-rays are no longer required on pre-employments unless clinically indicated. This results in an estimated annual savings of approximately \$20,000. Annual chest x-rays are only required of employees with positive tuberculin skin tests. There were 1,967 tuberculin skin tests administered to employees, 48 of which were initially positive and 11 of which were converters. Employees with positive tuberculin skin tests are notified annually for chest x-rays. Converters are referred to the Charleston County Health Department to be offered treatment.

There were 908 tuberculin skin tests administered to students with 18 positive results reported and 6 converters. Students with positive tuberculin skin tests are x-rayed annually. Those who convert are offered Isoniazid treatment and followed by Health Services. They are notified each month for conversion follow-up.

Health Services continues to monitor Hepatitis B in the hospital. Monthly hepatitis surface antigens are drawn on employees in high risk areas and the results are forwarded to the Health Services. Hepatitis B vaccine was made available to employees this year and screenings were performed at no cost to the employee. Those employees with no immunity were offered the vaccine at \$99 for a three-dose series. Health Services has screened 87 employees for the vaccine since May, 1983, providing five employees with the vaccine.

MUSC housestaff members working at the VA Hospital were screened for the Hepatitis vaccine in November and December, 1982. Those with no immunity were offered the vaccine through the VA Hospital.

Student Health Psychiatry, under the direction of Dr. Oliver Bjorksten, evaluated 67 students requesting this service. A total of 575 hours was spent in evaluation and treatment.

Overall, Health Services provided 24-hour medical care for 2,069 students and occupational health care for over 5,000 employees. Several policy changes were implemented which resulted in savings of approximately \$65,000.

## **MEDICAL UNIVERSITY HOSPITAL**

### **Productivity Improvements**

The Medical University Hospital initiated a series of productivity studies resulting in many immediate cost savings. More importantly, these studies established the groundwork for other permanent long-range cost savings.

The following actions were taken which brought about annual recurring savings of \$1,095,304 and a reduction of 71.9 full-time equivalent staff positions:

The Department of Nursing reduced the cost of its non-licensed staffing component by \$132,151.

The 6-Center Nursing Station was eliminated through consolidation of ten beds with 6-East and eight beds with 6-West for a savings of \$189,265.

The 5-Center Nursing Station was eliminated through consolidation of beds with 5-East and 5-West and the reduction of 13 beds for a savings of \$302,820. The net reduction in staff was 19.

Laboratory Medicine has ten vacant positions which will not be filled for an annual savings of \$140,060.

Through analysis of the night shift work load in Venipuncture, it was determined this shift could be eliminated by requiring house staff to draw their own blood samples. This change resulted in the elimination of two positions for a cost savings of \$24,322.

Radiology made two major improvements. The first was to increase revenues by increasing the number of computed tomographic scanning procedures from 18 to 22 per day. At an average of \$400 per procedure, this change will net the Hospital \$104,000 per year. The second improvement comes from the reduction of staff for an annual savings of \$126,241.

The Admitting Department has eliminated three positions for a total savings of \$29,292.

Environmental Services has reduced its staff by five positions for a total savings of \$25,426.

### **Outpatient Clinics**

In accordance with an October Board of Trustees resolution, the Hospital relocated virtually all general clinics to either Charleston County Memorial Hospital or federally funded patient care facilities. As this displacement has occurred, the University has expanded and supported functions in its private outpatient services. This growth will insure referrals and allow MUSC physicians to concentrate on subspecialty procedures.



### Nursing Recruitment/Retention

The Nursing Recruitment Committee initiated efforts to evaluate and revise the Nursing Extern Program, implement advertising on a national and local level, survey MUSC senior nursing students, and focus recruitment travel on specific geographic areas as determined by the market surveys. Committee activities consisted of a reception for MUSC senior nursing students at the Wickliffe House, co-sponsorship of "Senior Night" and State "Nurse of the Year" awards, and participation in 26 career days and student conventions.

Major changes were made in recruitment approaches and tactics through the use of a new visual display, brochures and advertisements introducing the concept of "Full Dimension Nursing," high quality recruitment mementoes, and several new specialized communication vehicles, *Notes*, *Vital Signs*, and *Pulse*. Evaluation mechanisms for the determination of effectiveness of advertising and recruitment travel are being developed.

The efforts of the Recruitment Committee can best be measured through established results. The number of registered nurses employed the previous year was 151 compared with 170 for the same period this year. Twenty-five percent of the 1983 graduates of the College of Nursing are employed in the Hospital compared to *seven percent* the year before. In addition, recruitment travel expenses were reduced by \$10,000.

The Retention Committee proceeded with a full schedule of activities including the complete revision of the nursing Internship Program, an ongoing study of scheduling patterns, a demonstration project of joint nurse-physician practice in pediatrics and selected surgical units, improved utilization of pool nurses, development of a patient classification system of acuity of illness rating as a staffing tool, time studies and work sampling to establish criteria for refining staffing standards, coordination of employee class and work schedules to assist personnel enrolled in continuing education programs, and re-establishment of tuition aid as both a retention and recruitment mechanism.

Overall retention of Department of Nursing staff nurses has improved as indicated by a decrease in the turn-over rate (ratio of RN terminations to total RN staff) from 39.8 percent in calendar year 1982 to a present annual rate of 20.7 percent.

### Design and Construction

Start of construction of the East Wing-Children's Hospital Addition has set in motion other planning for major renovation of the Medical University Hospital. Architectural plans are being drawn for the construction of the North Tower, the Palmetto Pavilion, consolidation of Intensive Care Units and renovation of the Dietary Department. They are all in accord with those of the Hospital Master Plan adopted in the late 1970's.

## **CURRENT STATUS OF DEVELOPMENT OF CLINICAL FACILITIES**

- I. Projects Approved, Funded and under Construction**
  - A. East Wing-Children's Hospital Addition
  - B. Relocation of Burn Center
  - C. Relocation of Medical Intensive Care Unit
  - D. Relocation of Occupational Therapy
  - E. Relocation of Vascular Laboratory
- II. Projects Approved, Funded and not under Construction**
  - A. Relocation of Psychiatry
  - B. Development of Palmetto Pavilion
  - C. Consolidation of Intensive Care Units
  - D. Renovation of Dietary Department to Include Kitchen and Cafeteria
  - E. Expansion of Comprehensive Care Center
  - F. Development of Referral Center
  - G. North Tower
  - H. Development of In Vitro Program
- III. Projects under Consideration**
  - A. Acquisition of Nuclear Magnetic Resonance Unit
  - B. Upgrade of Computed Tomographic Scanner
  - C. Development of Emergency Treatment Center
- IV. Projected New Major Construction**
  - A. Psychiatric Institute
- V. Completed Projects**
  - A. Replacement of Windows
  - B. Angiography Equipment
  - C. Additional Labor Rooms, Including Birthing Room
  - D. Security System
  - E. Indigent Outpatient Clinic



**MEDICAL UNIVERSITY HOSPITAL  
STATISTICAL SUMMARY  
For the 12 Months Ending June 30, 1983**

Licensed Beds .....		<u>510</u>
Beds in Use .....	441	
Bassinets .....	<u>69</u>	
Total .....	510	
<b>Patient Days:</b>		
General Nursing Units .....	104,175	
Special Care Units .....	7,656	
Nursery .....	<u>24,447</u>	
Total .....		<u>136,278</u>
Average Census .....		373.4
Average Census-Nursery .....		67.0
Average Length-of-Stay .....		6.9
Average Length-of-Stay Nursery .....		5.3
Percent Occupancy .....		72.1
Patient Admissions .....		20,068
<b>Clinic Visits:</b>		
MUH Clinic .....	76,359	
Cancer Clinic .....	5,157	
Cardiac Clinic .....	1,752	
Family Medicine .....	24,728	
Eye Clinic .....	7,022	
Private Diagnostic Clinic .....	43,764	
Primary Care Unit .....	<u>9,073</u>	
Total .....		<u>167,855</u>
Surgical Procedures .....		8,674
Number of Newborns .....		3,161
Laboratory Medicine Procedures .....		680,622
Anatomical Pathology Procedures .....		54,410
Diagnostic Radiology Procedures .....		94,753
Therapeutic Radiology Procedures .....		16,262
Nuclear Medicine Procedures .....		3,336
Physical Therapy Procedures .....		37,181
Pounds of Laundry .....		1,056,539
Number of Employees .....		2,355

## DIVISION OF CONTINUING EDUCATION

### Health Communications Network

One of the most exciting prospects facing the Network is the tie-in with the Instructional Television Fixed Service (ITFS) system, projected to be operational within 24 months. This State-owned, closed circuit system has the potential of connecting every hospital and nursing home in South Carolina and could make HCN the largest closed circuit hospital network in the country. In preparation for broader coverage made possible by ITFS, the Network is offering associate memberships to those hospitals which do not have access to the closed circuit under the present leased cable/microwave system. These hospitals will become full members of HCN as the system becomes operational.

Additionally, the Network is actively promoting better utilization of the State's closed circuit resources for the health education and training needs of South Carolina's health professionals through: (1) mobilization of and cooperation with State health agencies; (2) cosponsorship of new programs with hospital members, Area Health Education Center councils and State agencies; and (3) establishment of a Network Advisory Committee. This committee will be invaluable as it reviews the effectiveness of the Network's programs, promotion and policies.

The Network's emphasis on live, interactive teleconferencing was expanded during the year. Among the highly successful undertakings was a two-day seminar, "Accountability Mechanisms in the Hospital," broadcast on October 19 and 20, 1982. This program was presented by Richard E. Thompson, M.D., a nationally recognized authority on the subject of Joint Commission on Accreditation of Hospitals requirements.

In response to the findings of State-wide needs assessments for nurses, a 12-week series of live telecasts on Drug Interactions was developed by the Network. The series required eight months of preparation and coordination by faculty and Network staff prior to the initial broadcast on January 24, 1983.

The Network expanded its program service to commercial cable in an effort to provide continuing education to nurses in their homes. A pilot project was developed for public service channels on Charleston's Storer Cable, Summerville's Dorchester Cable Company and Cable TV of Columbia. Program topics which were aired in this innovative effort ranged from *Nursing Care of the Confused Patient: An Update* to *Operation Teddy Bear: Child Safety Seats*.

The Network also televised the first all-day conference in its 13-year history. "Marketing Strategies for Private Practice," an eight-hour workshop, was sponsored by the American Medical Association and the Charleston County Medical Society. This program was presented to a live audience in Charleston and simultaneously broadcast to State-wide par-



ticipating hospitals.

Revision of the Medical University's highly acclaimed "Psychiatry Learning System" (PLS) was completed by the Network during the early part of 1983. PLS is used in approximately 75 percent of all medical schools in the United States and is a multi-media, self-instructional course in Basic Psychiatry. Sale of this learning system is expected to generate considerable revenue for the University.

### Conference Section

The Conference Section sponsors or cosponsors health education activities for practitioners throughout the State. All symposium expenses and personnel are financially supported by registration fees and exhibit charges, as well as by pharmaceutical companies and medical supply houses. The division is responsible for approving and accrediting symposiums, grand rounds, case conferences and other medical education offerings.

In cooperation with MUSC Registrar's Office, the Section maintains a computerized system for Continuing Medical Education (CME) credits for the American Medical Association Award (AMA-PRA) Category 1 for physicians and Continuing Education Units (CEUs) for other health professionals. Credit information and records are readily available to health professionals or medical associations upon request through the Division of Continuing Education.

Due to outstanding evaluations and participation in last year's conference, "Spring Symposium: The Aging Ovary," the Conference Section and the Department of Obstetrics and Gynecology presented "Problems in Obstetrics" in fiscal year 1982-83.

A unique seminar was presented in Clemson, in the fall of 1982, cosponsored by the Division and the Clemson and MUSC Alumni Associations. This program was named "Sym-PAWS-ium '82" and was so successful that it will be held again in 1983. Alumni from MUSC and Clemson participated and served as speakers.

Another cosponsored program, "The Third Annual Southern Symposium on Vascular Diseases," was presented in cooperation with the Vascular Laboratory at Roper Hospital.

For over a decade, the Division of Continuing Education has been devoted to educating health professionals and updating them in the latest medical advances. These educational events are presented in a cost-effective manner which promotes improved patient care and health of all South Carolinians.

## SUMMARY OF ACTIVITIES

### July 1, 1982, through June 30, 1983

Workshops and Seminars .....	49
Credit Hours Offered .....	393
Accredited Departmental Activities .....	42
Programs Produced for Broadcast by HCN .....	221
Grand Rounds Interactive Broadcasts OB/GYN .....	18
Internal Medicine Grand Rounds .....	39
Open Circuit Educational Television Broadcasts "Openline" (public health information) .....	46
Videocassette Tape Duplications .....	1,242

## UNIVERSITY FINANCES

The fiscal year was marked by continued improvements to Medical University financial operations.

As in the previous year, in response to statewide forecasts of fiscal austerity, University officials maintained a close watch over budget projections and determined that an expenditure freeze was necessary. A freeze was imposed on vacant positions effective July 1, 1982, and extended to include non-personnel expenditures on January 1, 1983. This continued through the end of the fiscal year. As a result of the freeze, the University finished the fiscal year with a modest surplus.

The annual volume of work processed continued its steady rise as shown in the following three-year comparison:

<i>Fiscal Year</i>	<i>Payroll</i>	<i>Accounts Payable</i>	<i>Total</i>
1980-81 .....	\$77,355,083	\$74,186,677	\$151,541,760
1981-82 .....	80,688,222	75,309,350	155,997,572
1982-83 .....	83,326,773	76,158,905	159,485,678

Accounts Payable pursued all available discounts, achieving a 97 percent return at a savings of \$96,595 to the University.



The University currently has 22 ongoing construction projects totaling approximately \$65,000,000. All financial activities which affect these projects are managed through the University's Office of Project Administration. The Debt Service accounts are a vital source of funds to finance renovations, construction and equipment purchases. With the use of these funds, the University is able to minimize the need to issue bonds while still satisfying many of the University's fixed asset requirements.

Personnel of the Finance Division worked closely with staff of the State Auditor's Office during the University's annual audit. The combined effort resulted in many new accounting procedures, most notably those regarding fixed assets. Through this effort and the cooperation of the entire University community, the 1981-82 audit yielded an unqualified opinion on the financial statements. In addition, the University now has a property system regarded as being among the best in both the state and nation.

The University Activity Reporting System, reviewed by representatives of the Department of Health and Human Services (DHHS) during the year, gained DHHS approval. It was a significant milestone since the activity reporting system is used to document all salary charges to federal grants and contracts.

Several changes were made to improve services to University departments and individual employees. The most significant was a payroll system modification which enabled all employees to have payroll checks deposited directly into their bank accounts.

The Finance Division continued to work closely throughout the year with the State Comptroller General's Office in developing a better interaction between the University and the state accounting system. Daily accounting transactions are now being sent by computer tape directly to the Comptroller General. By receiving all financial data on a daily basis, the Comptroller General is able to provide more accurate and timely information to the State Legislature, State Board of Economic Advisors, and other users of information from the state accounting system.

As part of the President's Private Sector Task Force review of the University, the Financial Division and its operations were critically examined. The review was performed by financial and business leaders from across the state and resulted in many valuable recommendations for changes to the financial system.

Along with the Task Force review, the fiscal year was also noted for the initiation of Zero-Base Budgeting (ZBB) for the entire campus. While the results are not yet complete, preliminary findings indicate there are several areas where changes can result in greater efficiency and significant cost savings. Completion of ZBB is expected by October, 1983.

Procurement efforts in obtaining the required goods and services for

the University through responsible competitive processes resulted in significant savings for the University. Readily identifiable savings for just the last six months of the fiscal year exceeded \$880,000. (This figure does not include savings which resulted from formal bidding of construction projects or other types of transactions such as vending operations or collection services for which identification of actual savings is very difficult.)

The inventory management computer software purchased last fiscal year is operational for the Central Stores inventory. This software will next be utilized by the hospital and other areas of the University to manage their various inventories.

Greater usage of the blanket purchase order procedure, along with increased usage of the department order procedure, served to realize a significant decrease in the number of actual purchase orders used during the year — down 20 percent. Such an achievement permits Procurement personnel to be more responsive to department needs.

Procurement held a public sale of surplus goods which, along with the sale of other surplus equipment to other state agencies, generated revenue which will be applied toward the purchase of new equipment.

In response to the request of Hospital Administration, Central Stores assumed the responsibility for stocking a number of line items that had been carried in the hospital, thus releasing valuable space for other uses. This additional control both lends greater flexibility for procuring items at more competitive prices and creates additional revenue to cover the cost of the Materials Office.

The primary accomplishment of the year was the final resolution of all outstanding audits of the Medical University. A total of eleven audits were conducted over the last four years.

## ADMINISTRATIVE AFFAIRS

The major emphasis for Administrative Affairs during 1982-83 was placed upon the restructuring of existing programs in two primary areas, information management and personnel services.

With direction and authority of the President and the Board of Trustees, the Vice President for Administration instituted a complete study of the data processing systems of the Medical University for the purpose of reorganizing and refining these systems to meet information management needs in the most cost-efficient manner. A very significant contribution to this effort was made by the Administration Subcommittee of the President's Private Sector Task Force, which analyzed the current and projected needs of the University and made specific organizational and equipment recommendations. Plans were set in motion to combine the



central computer center and the telecommunications section of Business Operations, together with the office automation management and micro-filming functions, into a Division of Information Resource Management and an Acting Director was appointed.

Action was taken also to facilitate the implementation of the Patient Care System and Patient Management System through the joint efforts of Computer Center personnel and the various hospital departments, including Nursing, Admissions, Pharmacy, Medical Records, Radiology and Clinical Laboratory. The two systems will allow data to be entered at multiple locations throughout the Hospital using video display terminals, will produce reports or records where needed, and will eliminate much of the paperwork related to the existing manual systems. To implement this new system, a number of prerequisites must be fulfilled, including the development of a patient data base in excess of 440,000 patients. A special project was conducted by the Computer Center during the year to prepare University personnel for additional automation. A series of two-day seminars was developed and offered to all employees, utilizing the IBM Personal Computer. The course was well-received and attended by approximately 160 persons, with additional seminars scheduled for 1983-84.

The second major area studied for reorganization was the Department of Personnel Services. The Private Sector Task Force Administration Subcommittee reviewed plans for this area and recommended that Personnel Services be restructured into a Department of Human Resource Management, with sufficient staffing to enable the establishment of additional services to employees and departments, to include training and career development programs, expanded fringe benefit programs, consultation services, classification of employees and other services. By June 30, 1983, the new organization had been put in place and steps taken to determine employee training and benefit needs, with development of new programs to continue into 1983-84.

One of the most significant activities of the Office of Public Safety was the establishment of a continuing series of lectures for the campus community on crime prevention and personal safety. The sessions were conducted in conjunction with the City Police Department and feedback from the 2,500 persons attending was very positive. In addition, Public Safety surveyed the entire campus and measures were instituted which resulted in greater security for University property and eased employee concerns.

The major construction project in progress during 1983-84 was the East Wing-Children's Hospital Addition to the Medical University Hospital. The initial phase of this addition, composed of site work and pile-driving, was completed in June, 1983, and the total project, which will provide

facilities for pediatric care, laboratories and other patient services, is scheduled for completion by July, 1986. The Physical Plant Division also provided contract administration services for other construction projects valued at approximately \$2,700,000, prepared contract documents (drawings and specifications) for alteration and renovation projects amounting to about \$1,000,000, provided maintenance and housekeeping services for the University campus and carried on a number of large in-house renovation projects.

The Division of Business Operations continued to provide a myriad of necessary services to the University. Mail Service metered approximately 800,000 pieces of outgoing mail and processed about 2,000,000 pieces of incoming mail during the year, in addition to handling an average daily volume of 3,000 pieces of campus mail. To improve the efficiency of the operation, a new Pitney-Bowes mailing machine and drop boxes for late mailings were installed.

Occupancy at the Alumni Memorial House was 90 percent during the academic year, with an average of 226 residents. Summer utilization of the dormitory facility was exceptionally high due to the Summer Health Careers Program and other special activities held on campus. The Medical University's Motor Pool was commended by the State Division of Motor Vehicle Management and the State Budget and Control Board for its cost-effective management of the University's vehicles. Over-the-road vehicles traveled approximately 225,000 miles during the fiscal year and the fleet was enhanced by the addition of three new vehicles.

In order to meet the needs of the various segments of the University, changes were made in the University's parking system in 1983. To increase parking availability for patients and visitors, rates for parking in the high-rise garage were increased in order to discourage long-term parking. As a result, the Parking Garage was able to adequately provide parking for patients and visitors, even during former peak-demand hours.

The Office of Parking Management continued to administer the University's complex 2,886-space parking system, as well as the University's van pooling and car pooling programs. These programs enable the University to absorb the loss to construction of 95 parking spaces and continue to make assignments to remaining lots. A total of 436 employees participated in car pool groups and five commuter vans were in operation. As a result of these ridesharing efforts, more than 264,600 commuter miles and 17,640 gallons of fuel were saved. The Medical University's ridesharing program, along with those of the Texas Medical Center, Lincoln General Hospital and San Francisco Children's Hospital, was selected for focus for the publication, *Ridesharing Remedies for Hospitals and Medical Centers*, published by the U. S. Department of Transportation.



To assist the Medical University in maintaining its link with the various consortium hospitals throughout the state, to reduce the time required for University administrators to attend necessary meetings off-campus, and to transport transplant organs and blood for emergency surgery, the MedAir operation provided 574 flights covering approximately 77,000 miles during 1983.

## DEVELOPMENT AND ALUMNI RELATIONS

The Office of Development continued successfully to encourage financial support, in the form of both current and deferred gifts, from the University's various constituencies in the private sector. During the year, contributions of \$1,000 or more were received from alumni, faculty, corporations and friends in greater number than ever before.

Also, three successful fund-raising concerts (Luciano Pavarotti, Vienna Choir Boys, Isaac Stern) were sponsored. These and various other programs, including an award-winning direct-mail piece which more than doubled the dollars raised by previous solicitations of this nature, plus investment income resulted in more than \$1 million in new funds.

A formal planned giving program was begun with the creation of a special brochure which will be mailed to a select group of alumni, faculty, trustees, directors and others who may have an interest in supporting the Medical University.

An Old Grads Alumni Association was formed during the year for the 245 alumni who graduated 50 years ago or more. Some 100 Old Grads returned to campus and marched in the commencement processional wearing caps and gowns.

This year also saw full-scale organization of the Dental Medicine Alumni Association, including establishment of a Class Agent Program and publication of the first "D.M.D. Magazine". The Graduate Studies Alumni Association elected its first officers and made plans for its first alumni weekend. Allied Health Sciences alumni elected officers for the first time since 1977, and held six alumni receptions in conjunction with professional meetings across the state. Nursing alumni organized the one-hundredth birthday celebration of the college and published a commemorative magazine, "Reflections on Nursing".

The Medical Alumni Association sponsored its first Parent's Day for alumni-parents, and held eight reunions. Pharmacy alumni met for their annual Awards Night, their first Super Saturday, and again at their state convention. For the first time, all six alumni associations mailed gifts to the 1983 graduating class.

## **PUBLIC RELATIONS**

Two major areas of concentration for public relations were the development of a new biweekly campus newspaper called "The Catalyst" and extensive communications support services for the Office of the President. The campus newspaper filled a vital need to help improve the flow of accurate, timely information internally. With the arrival of the new president of the University, numerous projects emerged in which public relations services were required to aid in acquainting both internal and external audiences with the University's new leadership and projected goals and objectives of the new administration.

### **The Catalyst**

Published 24 times annually at virtually no cost to the University, The Catalyst is an innovative and successful project that has dramatically improved campus-wide perceptions of the University's image, formerly presented primarily through local news media. Some 5,000 copies of The Catalyst are delivered every other week on campus and are distributed at no charge to faculty, students and employees. The paper includes University news about faculty, staff, students and employees, editorials, classified and display advertising. It is published by contract with a local community newspaper publisher who covers production costs from ad revenues. All news and editorial copy is written by the MUSC Public Relations staff. The paper also is mailed in limited quantities off campus primarily to South Carolina health professionals. News reporters frequently use the paper as a news source in addition to releases and personal contacts.

### **Support for New Administration**

In an effort to gain greater statewide visibility for the University, a six-city tour was organized by the Public Relations staff for Dr. James B. Edwards and the University's Vice-Presidents during the first week after Dr. Edwards assumed the presidency. Other activities have included speech writing, scheduling and hosting visits to campus by executives from three of the state's major dailies, a more concentrated effort to disseminate news of interest statewide, and a reactivated campus tour program to appeal to prospective students from other parts of the state who want to visit the campus.

Expanded use of television for non-broadcast use has served effectively to explain to visitors and internal audiences such information as the Private Sector Task Force Report, services of the Storm Eye Institute, and the ground breaking for the Children's Hospital. The appointment of a full-time Hospital public relations officer has begun to improve markedly



the flow of public information about Hospital services and to aid in planning specific activities to enhance the Hospital's image.

### MARINE BIOMEDICAL RESEARCH PROGRAM

The Marine Biomedical Research Program (MBRP), completing its third year of operation, continues to be primarily a research and graduate training unit. Its concentration is in three research areas: (1) studies involving the use of marine molecules, cells and organisms as models to answer questions of basic biomedical interest; (2) zoonotic diseases transmissible from marine animals to humans and (3) diseases of economically important marine organisms.

In addition, effort was applied to schistosomiasis research, with the program being officially designated by the World Health Organization as a Collaborating Laboratory in Vector Biology. Negotiations are under way which will lead to the testing of a new compound developed by a Japanese laboratory which reportedly is highly effective for the control of aquatic snails that transmit schistosomiasis.

Institutionally, the MBRP collaborated in research with faculty and post-doctoral fellows from the Departments of Biochemistry, Anatomy, Immunology-Microbiology, and Family Medicine.

#### Grants and Contracts

The total dollars awarded to the MBRP during this reporting period was \$328,405 of which \$139,883 is budgeted for the current year. The awards were as follows:

National Science Foundation, "Characterization of Oyster Leukocyte Receptors." \$145,000/2years; current year \$73,640. (Thomas Cheng)

U. S. Department of Commerce, Sea Grant, "Marine Anisakiasis." \$13,000/1 year. Current year \$13,000.

U. S. Department of Energy, "Effects of Energy-Related Pollutants on Cellular Immunity in Estuarine Organisms." \$104,000/3 year. Current year \$33,181. (John T. Sullivan and Cheng)

World Health Organization, "Epithelia of Schistosome-Transmitting Snails." \$66,405/3 years. Current year \$20,062. (Sullivan)

#### Professional Activities

The Program Director, Dr. Cheng, completed his service as president of the American Microscopical Society, presenting his presidential address at the annual meeting of the society in December, 1982, in Louisville, Ky. He is in his fourth year as a member of the Cell Physiology Panel of the National Science Foundation and continues to serve as the editor of the *Journal of Invertebrate Pathology* and *Experimental Para-*

*sttology*, and in April, 1983, assumed the senior editorship of *Comparative Pathobiology*.

### **Visitors**

The MBRP played host to four visitors during the year: Dr. John Wourms of Clemson University, Dr. Eric James of the London School of Tropical Medicine, Dr. J. P. Moore of the University College, Swansea, Wales, and Dr. Kenneth Chew of the University of Washington.

### **Teaching**

Program faculty members Cheng, Sullivan and Dr. Keith H. Howland all participated in the teaching of Medical Histology. In addition, all three jointly offered two courses in the evening for the Charleston Higher Education Consortium's Marine Biology Graduate Program: Marine Parasitology and Pathobiology of Marine Animals.

## **CHARLESTON HIGHER EDUCATION CONSORTIUM**

### **Graduate Programs**

In the area of graduate programs, the Charleston Higher Education Consortium (CHEC), University of South Carolina (USC) and The College of Charleston conducted a comprehensive evaluation of the Master of Public Administration (MPA) program and recommended that it be administered under the sole auspices of the latter two institutions. CHEC will continue to coordinate the master's programs in special education and marine biology since these two programs, unlike the MPA, involve the substantial participation of more than one CHEC institution. A major development of the marine biology program was the close articulation with Medical University of South Carolina (MUSC) doctoral programs in biochemistry, anatomy, pharmacology, immunology and microbiology.

In other program areas, MUSC submitted a letter of intent to the Commission on Higher Education for an M.S. program in computer science. Also, CHEC met with USC officials throughout the year to ensure accessibility of courses in USC's Ed.D. program in curriculum and instruction to tricity residents, and articulation between that program and The Citadel's Ed.S. (Education Specialist) degree. It worked toward full cooperation between USC and its Charleston-area offerings and S. C. State's establishment of its Ed.D. program in educational administration under the State's Desegregation Plan.

### **Research Support**

In the area of research support, the CHEC libraries initiated a courier service among the institutions for delivery of library materials. Other



current library projects which are enhancing CHEC's research capabilities include: the maintenance of a Union List of Periodicals; establishment of a librarians' subcommittee to draft guidelines for combined collections development policies; and establishment of a subcommittee to facilitate conversion of holdings to the "SOLINET" computerized system. Together, these strategies better enable the libraries to eliminate unnecessary and expensive duplication in such areas as subscriptions to research journals. For instance, The Citadel was able to cancel more than \$13,000 in journal subscriptions this year.

### **Community Resources and Services**

The "Fair Break" Program, which provides comprehensive pre-employment and job placement services for residents of Charleston's disadvantaged East Side, opened in September, 1982. In developing this program, which is a critical component of the City of Charleston's economic re-development program for the East Side, CHEC secured initial funding of \$97,000 and 1983-84 funding of \$135,000. CHEC also is serving as the coordinating agency for the project, bringing together the efforts of Trident Technical College (the implementing agency), City Venture Corporation, Control Data Corporation, Trident Work-Education Council and the City of Charleston.

CHEC's Educational Opportunity Center Program underwent a substantial re-focusing and is now providing its postsecondary pre-enrollment assistance to primarily adult clients (1,500 adults will be served annually, and 500 high school youth) through a network of community-based centers. CHEC secured a \$215,000 grant from the U. S. Department of Education and has been informed that the program will receive the same amount for 1983-84.

CHEC developed a Community Events Calendar, which it distributed in the fall and spring to 120,000 tricounty households through the Charleston County School District's Community Education tabloid. Events listed included lectures, symposia, movies, performances, exhibits and related cultural activities.

Through multiple sources, including individual canvassing of local industries, CHEC has compiled an inventory of local non-academic professionals who are qualified and interested in adjunct teaching positions in critical disciplines at the college level (e.g., in computer science and engineering) and pre-college level (e.g., in the physical sciences). It has distributed these listings to the colleges and school system, and will continue to compile this information on a periodic basis.

In the fall of 1982, CHEC invited 18 tricounty community leaders to serve as the Consortium's Advisory Committee. The Committee met bi-monthly throughout the year and has proved an effective, continuing

means of soliciting valuable insights, suggestions, and reactions to CHEC's work, particularly in the areas of CHEC's relationships with business, industry and the public schools.

### **Reducing Program Duplication**

CHEC moved to coordinate the non-credit, liberal arts offerings of the institutions. Critical factors in this undertaking were The Citadel and Baptist College decisions to eliminate their non-credit coordinator positions and The College of Charleston's willingness to act as the implementing institution for the development and pilot-testing of a comprehensive, non-credit Consortium community outreach program in the humanities. Spring semester 1983 was spent in developing initial courses and mapping out a pilot-year program

### **Administrative Support Services**

Studies of potential strategies for cost savings and increased effectiveness were conducted. One such study led The College of Charleston to decide to give up its print shop this coming year, and to contract to have its in-house printing done by The Citadel. Other service areas under study are motor vehicle pools, group purchasing, and computer services. CHEC became a member of the National Association for the Exchange of Industrial Resources, a brokering agency that will make available to the CHEC institutions diverse kinds of surplus property (ranging from instructional materials to janitorial supplies) either free or for the costs of transport only.

### **Articulation**

CHEC's Educational Opportunity Center program printed the 1982-83 Transfer-Articulation Catalogue, which gives a current listing of Trident Technical College courses that are transferable to CHEC's 4-year institutions.

Cross-registration policies, procedures, publications and other publicity vehicles were reviewed and revised. One result was the development of more accurate data about cross-registration. The year saw 196 students cross-register for 348 courses in the fall and spring semesters. Policies allow full-time students to cross-register on a space-available basis without paying additional tuition. A total of 163 students, cross-registered for 301 courses, were in this category: at an average fee of \$150 per course, these students were spared payments of more than \$45,000, at no additional costs to their host institutions.



### **Faculty and Staff Development**

The Student Affairs Professional Development Project (PDP), funded by a second-year grant of \$58,000 from the Fund for the Improvement of Postsecondary Education, will be completed in Fall, 1983. Its final year's accomplishments include the conduct of the final staff development retreats; awarding of small grants (up to \$1,500) to support nine exemplary student services improvement projects; and programs ranging from staff training in working with multicultural students to a two-day computer literacy workshop and the conduct of an invited keynote "model project" workshop at the 1983 national convention of the National Student Personnel Association.

A pilot "Faculty College" was conducted in April, 1983, as a means of testing faculty interest in a local, Chautauqua-type residential retreat in a disciplinary (or interdisciplinary) area of intellectual discourse. Twenty-five faculty, subsidized by their institutions, attended this retreat, an introductory share course on the topic, "Frontiers of Neuroscience." Plans are being made to offer similar programs during 1983-84 for several audiences (faculty, community leaders, and possibly pre-college faculty).

CHEC updated its Minority Faculty and Staff Recruitment Directory (currently some 350 c.v.'s are on file) and distributed it to every college in South Carolina. The Commission on Higher Education has awarded a grant to continue the Directory and a grant to pilot-test a Minority Visiting Senior Scholars project.

Other developments were the holding of three "computer literacy" workshops and a "grantsmanship" workshop in the humanities and arts.

### **Cooperation with Public Schools**

The Educational Opportunity Center program provided pre-college enrollment counseling, entry and financial aid application assistance, and related services to some 500 disadvantaged tri-county high school students.

It also coordinated the state's only computer literacy program for pre-college teachers. This program included courses under several different formats offered by the Baptist College, The Citadel, The College of Charleston, and the Medical University. A total of 187 pre-college teachers, administrators and staff participated in these courses.

CHEC and the Charleston County School District are co-sponsoring a continuing professional development program in the teaching of writing, the Charleston Area Writing Project (CAWP). This project, which is allied with the National Writing Project of the University of California at Berkeley and is part of the newly formed S. C. Writing Project, began with an intensive five-week Summer Institute starting in June, 1983, at The College of Charleston. The 20 Institute participants were com-

petitively selected and included teachers from the kindergarten through college levels. The academic year follow-through activities will include in-service workshops for other teachers that will be conducted by the peer "graduates" of the Summer Institute.

Through the Trident Work-Education Council, CHEC sponsored the sixth Summer Work-Education Program. This program provides school teachers and counselors with work experience in entry-level jobs in local businesses and industries within the context of a graduate-level course offered by The Citadel. The intent of the program is to facilitate more accurate and realistic counseling of students, and to foster an educational process more relevant to their preparation for employment. The program was awarded more than \$20,000 in support for the 20 participants.

CHEC has begun conversations with the Charleston County School District's "Association of Parents of Gifted Students" to see how it might help in meeting the needs of gifted students through support programs developed by the consortium colleges in cooperation with each other and the public school system.



